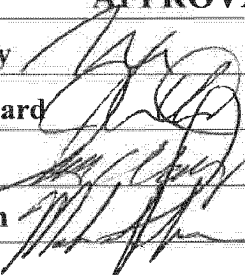


<b>4 CRUDE MAJOR EWO NO. :</b> <b>BE132-I1</b>		<b>REV:</b> 0
<b>PLANT:</b> 4 CRUDE	<b>SAP COST CENTER:</b> DD173-EXP	
<b>W/O # 320820-001</b>	<b>PROJECT / OUTAGE #:</b> SDD108A	
<b>C-1100 OVHD CORROSION PROBES REPLACEMENT</b>		
<b>MOC #:</b>		
<p style="text-align: center;"><b>Level 1 - Management of Change Review</b></p> <p><b>Will This Change:</b></p> <p><input type="checkbox"/> Cause the use of different feeds, chemicals, or catalysts?</p> <p><input type="checkbox"/> Cause the use of different process conditions, instrumentation, process control, or affect upstream/downstream plants?</p> <p><input type="checkbox"/> Cause the use of new or modified equipment (which is other than in-kind)?</p> <p><input type="checkbox"/> Alter equipment siting, building, trailer locations, roads, or fire protection?</p> <p><input type="checkbox"/> Require modifying existing and/or developing new procedures?</p> <p><input type="checkbox"/> Affect employee emergency response due to an organizational change?</p> <p><input type="checkbox"/> Transfer the responsibility for any environmental, health, or safety-related task?</p> <p><input type="checkbox"/> Alter the permanent staffing level or organization of any safety-sensitive job?</p>		
<b>SAFETY OPERATOR</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>IN VOC SERVICE?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>IN PLANT WELDING?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>APPROVALS</b>		
<b>OPERATIONS :</b> K. Sohnrey	<b>DATE:</b> 1/5/11	<b>PHONE:</b> 2-2042
<b>INSPECTION'S :</b> J. Beauregard	<b>DATE:</b> 1/6/2011	<b>PHONE:</b> 2-5187
<b>IMPACT. T.L. :</b> S. Woolley	<b>DATE:</b> 1/12/11	<b>PHONE:</b> 2-5404
<b>MAINTENANCE:</b> M. Paulson	<b>DATE:</b> 1/11/11	<b>PHONE:</b> 2-1708
 <b>R. RAMIREZ</b> <b>JAN 12 2011</b>		



# 221 - Process Piping Worklist

Port Date: January 06, 2011

Data Source: Meridium

## IDENTIFICATION

Worklist ID: WL-1005233542

Equip. Location: 0955-003-001: C-1100 OVHD

Unit: 0955: 4 CRUDE UNIT PLT 11

Date Created: 05/03/2010

MFR:

MFR Serial No:

Asset ID: 0000110856

Activity ID: 2011 D&R Major S/D

Date Modified: 05/24/2010

MFR Model No:

Asset Type: 221 - 221 - Process Piping

## GENERAL

<input type="checkbox"/>	Available During Run?	
<input type="checkbox"/>	Bill of Material	
<input checked="" type="checkbox"/>	Staging Required	
<b>Comments:</b>		

## WORKLIST ITEMS

Denied  
Signature

<input type="checkbox"/>	Clean Internally		
<input type="checkbox"/>	Repair Gasket Surface		
<input type="checkbox"/>	Hydrotest		
<input type="checkbox"/>	Hanger		
<input type="checkbox"/>	Shoes		
<input type="checkbox"/>	Bolting		
<input type="checkbox"/>	Dead Leg		
<input type="checkbox"/>	Supports		
<input type="checkbox"/>	Insulation		
<input type="checkbox"/>	Coating		

<input checked="" type="checkbox"/>	Additional Instruction	replace corrosion probes during outage.	
<input type="checkbox"/>	Additional Instruction		
<input type="checkbox"/>	Additional Instruction		
<input type="checkbox"/>	Additional Instruction		

Note:

History:

Need to replace during outage for continued corrosion monitoring capabilities.

# 221 - Process Piping Worklist



Port Date: January 06, 2011

Data Source: Meridium

## IDENTIFICATION

Worklist ID: WL-1005233541

Equip. Location: 0955-003-002: C-1100 OVHD

Unit: 0955: 4 CRUDE UNIT PLT 11

Date Created: 05/03/2010

MFR:

MFR Serial No:

Asset ID: 0000110857

Activity ID: 2011 D&R Major S/D

Date Modified: 05/24/2010

MFR Model No:

Asset Type: 221 - 221 - Process Piping

## GENERAL

<input type="checkbox"/>	Available During Run?	
<input type="checkbox"/>	Bill of Material	
<input checked="" type="checkbox"/>	Staging Required	
Comments:		

## WORKLIST ITEMS

**Denied**  
Signature

<input type="checkbox"/>	Clean Internally		
<input type="checkbox"/>	Repair Gasket Surface		
<input type="checkbox"/>	Hydrotest		
<input type="checkbox"/>	Hanger		
<input type="checkbox"/>	Shoes		
<input type="checkbox"/>	Bolting		
<input type="checkbox"/>	Dead Leg		
<input type="checkbox"/>	Supports		
<input type="checkbox"/>	Insulation		
<input type="checkbox"/>	Coating		

<input checked="" type="checkbox"/>	Additional Instruction	replace corrosion probes during outage.	
<input type="checkbox"/>	Additional Instruction		
<input type="checkbox"/>	Additional Instruction		
<input type="checkbox"/>	Additional Instruction		

Note:

History:

Work can't be performed on the run due to condition of the corrosion probes. Need to replace during outage for continued corrosion monitoring capabilities.

# 221 - Process Piping Worklist



Report Date: November 15, 2010

Data Source: Meridium

## IDENTIFICATION

Worklist ID: WL-1005233542

Equip. Location: 0955-003-001: C-1100 OVHD

Unit: 0955: 4 CRUDE UNIT PLT 11

Date Created: 05/03/2010

MFR:

MFR Serial No:

Asset ID: 0000110856

Activity ID: 2011 D&R Major S/D

Date Modified: 05/24/2010

MFR Model No:

Asset Type: 221 - 221 - Process Piping

*Create clean caps*

## GENERAL

*Corrosion Probes Corrosion Probe*

<input type="checkbox"/>	Available During Run?	
<input type="checkbox"/>	Bill of Material	
<input checked="" type="checkbox"/>	Staging Required	
Comments:		

## WORKLIST ITEMS

Denied  
Signature

<input type="checkbox"/>	Clean Internally		
<input type="checkbox"/>	Repair Gasket Surface		
<input type="checkbox"/>	Hydrotest		
<input type="checkbox"/>	Hanger		
<input type="checkbox"/>	Shoes		
<input type="checkbox"/>	Bolting		
<input type="checkbox"/>	Dead Leg		
<input type="checkbox"/>	Supports		
<input type="checkbox"/>	Insulation		
<input type="checkbox"/>	Coating		

<input checked="" type="checkbox"/>	Additional Instruction	replace corrosion probes during outage.	
<input type="checkbox"/>	Additional Instruction		
<input type="checkbox"/>	Additional Instruction		
<input type="checkbox"/>	Additional Instruction		

Note:

History:

Need to replace during outage for continued corrosion monitoring capabilities.

*Drawings drive  
Piping upgrades.*

# 221 - Process Piping Worklist



Report Date: November 15, 2010

Data Source: Meridium

## IDENTIFICATION

Worklist ID: WL-1005233541

Equip. Location: 0955-003-002: C-1100 OVHD

Unit: 0955: 4 CRUDE UNIT PLT 11

Date Created: 05/03/2010

MFR:

MFR Serial No:

Asset ID: 0000110857

Activity ID: 2011 D&R Major S/D

Date Modified: 05/24/2010

MFR Model No:

Asset Type: 221 - 221 - Process Piping

## GENERAL

*Corrosion Probes*

<input type="checkbox"/>	Available During Run?	
<input type="checkbox"/>	Bill of Material	
<input checked="" type="checkbox"/>	Staging Required	
Comments:		

## WORKLIST ITEMS

Denied  
Signature

<input type="checkbox"/>	Clean Internally		
<input type="checkbox"/>	Repair Gasket Surface		
<input type="checkbox"/>	Hydrotest		
<input type="checkbox"/>	Hanger		
<input type="checkbox"/>	Shoes		
<input type="checkbox"/>	Bolting		
<input type="checkbox"/>	Dead Leg		
<input type="checkbox"/>	Supports		
<input type="checkbox"/>	Insulation		
<input type="checkbox"/>	Coating		

<input checked="" type="checkbox"/>	Additional Instruction	replace corrosion probes during outage.	
<input type="checkbox"/>	Additional Instruction		
<input type="checkbox"/>	Additional Instruction		
<input type="checkbox"/>	Additional Instruction		
Note:			
History:			
Work can't be performed on the run due to condition of the corrosion probes. Need to replace during outage for continued corrosion monitoring capabilities.			

# INSPECTION RECOMMENDATION

Fixed Equip. Reliability  
Equipment Reliability Group  
Richmond Refinery, Richmond CA

## I. RECO IDENTIFICATION:

RECO #: <input style="width: 150px;" type="text"/>		PPT #: <input style="width: 150px;" type="text"/>		Date Written: <input style="width: 150px;" type="text"/>		
Plant: <input style="width: 150px;" type="text" value="D&amp;R"/>	<b>PRIORITY</b> <input type="checkbox"/> Immediate Action <input type="checkbox"/> Planned Shutdown <input type="checkbox"/> Next Opportunity <input type="checkbox"/> Routine		<b>RECO TYPE</b> <input type="checkbox"/> Information Only <input type="checkbox"/> Eng. Required <input type="checkbox"/> Eng. Not Req'd <input type="checkbox"/> Other		<b>MAINT. ZONE</b> <input type="checkbox"/> Cracking <input type="checkbox"/> Hydro <input checked="" type="checkbox"/> D&R <input type="checkbox"/> Other	
Plt. Eqp. #: <input style="width: 150px;" type="text" value="Equip. / Piping"/>						
Brass Tag#: <input style="width: 150px;" type="text"/>						
Service: <input style="width: 300px;" type="text" value="Stabilizer overhead coolers"/>						

## II. MANAGEMENT OF CHANGE:

**Level 1 Review Summary**

<input type="checkbox"/> NO	Will new feeds, chemicals or catalysts be used? (See RI-313 for new chemicals, Oprs. Coord for new feeds)	
<input type="checkbox"/> NO	Will this work lead to operation outside established limits? Which Equipment?	<input style="width: 150px;" type="text" value="List Equipment if Yes"/>
<input type="checkbox"/> NO	Is this repair or replacement other than "In-kind"?	
<input type="checkbox"/> NO	Does this involve developing new and / or modifying existing procedure?	
<input type="checkbox"/> NO	Does this work involve the addition of new equipment? (Send copy of the MOC form to EAD for new equipment)	
<input type="checkbox"/> NO	Will this impact upstream or downstream plants? If "YES" ... then which Plants?	<input style="width: 150px;" type="text" value="List Plant (s) if Yes"/>

*If any of the above questions were answered "YES", then a Level 2 review is required.*

## III. RECO INFORMATION (Summary and Details):

One Line Summary: <input style="width: 400px;" type="text" value="0955-003-002 Overhead line corrosion probes"/>					
#	<b>Information / Recommendations</b> <u>INFORMATION</u> 0955-003-002 outlet corrosion probes will need to be replaced. Under normal circumstances these can be serviced on the run, but due to their extended service the probes have corroded and will not properly seal to allow changing them on the run.				
	<u>RECOMMENDATIONS</u> 1. Work with Nalco to ensure that the proper corrosion probes are available during the S/D window. 2. Replace the corroded probes to allow continual corrosion monitoring on the run.				
	Contact John Beauregard 2-5187 with questions or concerns.				
	<b>**Material, Fabrication, Welding, Inspection and Testing shall be performed in accordance with the Richmond Refinery - Metals Craft, Quality Assurance Procedures.</b>				
Cost Estimate by:		Total Man-Days	Cost per Man-Day	Total Labor Cost:	Total M'trl. Cost:
<input style="width: 100px;" type="text"/>		<input style="width: 100px;" type="text"/>	x <input style="width: 100px;" type="text"/>	= <input style="width: 100px;" type="text"/>	+ <input style="width: 100px;" type="text"/>
		= <input style="width: 100px;" type="text"/>			

## IV. RECO APPROVAL (Enter Name & Phone):

	Name	Phone		Name	Phone
Area Inspector:	<input style="width: 150px;" type="text" value="John Beauregard"/>	<input style="width: 100px;" type="text" value="#2-5187"/>	Engineering:	<input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>
Lead Inspector:	<input style="width: 150px;" type="text" value="Dale Blume"/>	<input style="width: 100px;" type="text" value="#2-3301"/>	Operations:	<input style="width: 150px;" type="text"/>	<input style="width: 100px;" type="text"/>

# INSPECTION RECOMMENDATION

Fixed Equip. Reliability  
Equipment Reliability Group  
Richmond Refinery, Richmond CA

## I. RECO IDENTIFICATION (PAGE 2):

RECO #:	PPT #:	Date Written:
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## III. RECO INFORMATION (PAGE 2):

